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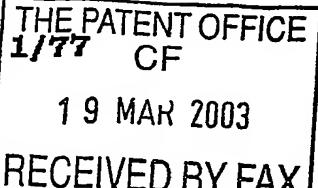
*Stephen Hordley*

Dated

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*Ex parte* The Patent Office

Cardiff Road  
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1. Your reference

30086 GB

2. Patent application number  
(The Patent Office will fill in this part)

0306152.0

19 MAR 2003

3. Full name, address and postcode of the or of each applicant (underline all surnames)

Givaudan SA  
Chemin de la Parfumerie 5  
1214 Vernier  
Switzerland

Patents ADP Number (if you know it)

8408031001

If the applicant is a corporate body, give the country/state of its incorporation

Switzerland

4. Title of the Invention

Method

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

Centre for Innovative Technology (Givaudan UK Ltd.)  
76-80 Church Street, Staines  
Middlesex TW18 4XR  
United Kingdom

Patents ADP number (if you know it)

8447815001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country	Priority application number (if you know it)	Date of filing (day/month/year)
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7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing  
(day/month/year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if)  
a) any applicant named in part 3 is not an inventor, or  
b) there is an inventor who is not named as an applicant, or  
c) any named applicant is a corporate body.  
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yes

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Description 6 ✓

Claim(s) 1 ✓

Abstract 1 ✓

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Request for preliminary examination and search (Patents Form 9/77)

1

Request for substantive examination (Patents Form 10/77)

Any other documents  
(please specify)

11.

I/We request the grant of a patent on the basis of this application.

Signature

Date 19 March 2003

12. Name and daytime telephone number of person to contact in the United Kingdom

Colin Brown (office time) Tel. No: 01/784417721

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DUPLICATE

## METHOD

This invention relates to a means of fragrance delivery in washing products.

- 5 It is desirable to deliver fragrances such as perfumes to substrates by means of their incorporation into washing products such as laundry detergents. However, many washing products contain surfactants, which form micelles in water, and, as many fragrances are hydrophobic, they tend to migrate to the micelles, rather than deposit on the substrate.
- 10 Several methods of overcoming this problem have been tried. One is to use fragrances that are not attracted more to the micelles than to the substrate. This is possible, but it restricts greatly the range of possible fragrances that can be used. Another method is encapsulation, whereby the fragrance is encapsulated in a protective material, which will release it at an appropriate time. Again, this overcomes the problem, but it is an expensive method, both in 15 its achievement and in the fact that much fragrance is lost as a result of the heating involved.

It has now been found that an inexpensive, convenient method overcomes all these disadvantages and permits the achievement of a fragrance that is delivered to the substrate. The invention therefore provides a method of preparation of a free-flowing solid fragrance-  
20 providing composition, comprising the addition of a fragrance to a particulate carrier material in the presence of a water-soluble salt of an alkali or alkaline earth metal.

The invention additionally comprises a free-flowing solid fragrance-providing composition, comprising a particulate carrier on which is deposited a fragrance and a water-soluble salt of  
25 an alkali or alkaline earth metal.

In this description, unless otherwise stated, the use of the singular also includes the plural. For example, "a fragrance" also comprehends the case where more than one fragrance is used.

The fragrances for use in this invention may be any fragrances known to the art. It is a characteristic of this invention that an unusually broad range of fragrances may be used. Examples include digeranyl succinate, dineryl succinate, geranyl neryl succinate, geranyl phenylacetate, neryl phenylacetate, geranyl laurate, neryl laurate, di(b-citronellyl) maleate, dinonadol maleate, diphenoxanol maleate, di(3,7-dimethyl-1-octanyl) succinate, di(cyclohexylethyl) maleate, diflralyl succinate, di(phenylethyl) adipate, 7-acetyl-1,2,3,4,5,6,7,8-octahydro-1,1,6,7-tetramethyl naphthalene, ionone methyl, ionone gamma methyl, methyl cedrylene, methyl dihydrojasmonate, methyl 1,6,10-trimethyl-2,5,9-cyclododecatrien-1-yl ketone, 7-acetyl-1,1,3,4,4,6-hexamethyl tetralin, 4-acetyl-6-tert-butyl-1,1-dimethyl indane, para-hydroxy-phenyl-butanone, benzophenone, methyl beta-naphthyl ketone, 6-acetyl-1,1,2,3,3,5 hexamethyl indane, 5-acetyl-3-isopropyl-1,1,2,6-tetramethyl indane, 1-dodecanal, 4-(4-hydroxy-4-methylpentyl)-3-cyclohexene-1-carboxaldehyde, 7-hydroxy-3,7-dimethyl octanal, 10-undecen-1-al, isohexenyl cyclohexyl carboxaldehyde, formyl tricyclodecane, condensation products of hydroxycitronellal and methyl anthranilate, condensation products of hydroxycitronellal and indol, condensation products of phenyl acetaldehyde and indol, 2-methyl-3-(para-tert-butylphenyl)-propionaldehyde, ethyl vanillin, heliotropin, hexyl cinnamic aldehyde, amyl cinnamic aldehyde, 2-methyl-2-(para-iso-propylphenyl)propionaldehyde, coumarin, decalactone gamma, cyclopentadecanolide, 16-hydroxy-9-hexadecenoic acid lactone, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylcyclo-penta-gamma-2-benzopyrane, beta-naphthol methyl ether, ambroxane, dodecahydro-3a,6,6,9a-tetramethylnaphtho[2,1b]furan, cedrol, 5-(2,2,3-trimethylcyclopent-3-enyl)-3-methylpentan-2-ol, 2-ethyl-4-(2,2,3-trimethyl-3-cyclopenten-1-yl)-2-buten-1-ol, caryophyllene alcohol, tricyclodecetyl propionate, tricyclodecetyl acetate, benzyl salicylate, cedryl acetate, para-(tert-butyl) cyclohexyl acetate, essential oils, resinoids, and resins from a variety of sources including but not limited to orange oil, lemon oil, patchouli, Peru balsam, Olibanum resinoid, styrax, labdanum resin, nutmeg, cassia oil, benzoin resin, coriander, lavandin, and lavender, phenyl ethyl alcohol, terpineol, linalool, linalyl acetate, geraniol, nerol, 2-(1,1-dimethylethyl)cyclohexanol acetate, benzyl acetate, orange terpenes, eugenol, diethylphthalate, and combinations thereof.

These fragrances are generally available in liquid form (as solutions in organic solvent) and this is the form in which they are used in this invention.

The carrier material may be any suitable particulate carrier known to the art to be suitable as a carrier material for fragrances. Examples include fine, porous silicas. Typical silicas are precipitated silicas, or they may be fumed silicas. The silicas should have a particle size 2 – 15 $\mu$ M and a BET surface area of from 140 to 550 M<sup>2</sup>/g. Preferably the silicas are capable of adsorbing from 2-3 times their weight in fragrance. Suitable silicas of the correct particle size may be provided in that size, or they may be produced from larger particle size silicas by known techniques, such as milling. Typical commercial products include SIPERNAT (trade mark) 22S, 22LS and 50S (ex Degussa).

- 10 Another type of carrier material is a cellulose derivative, preferably a water-soluble cellulose derivative. A preferred material is carboxymethyl cellulose, which is widely used in detergent formulations as an anti-redeposition agent. A typical commercial product is BLANOSE (trade mark) (ex Hercules).
- 15 The water-soluble salts of alkali or alkaline earth metals may be any such salts known to the art. Typical examples include sodium and potassium chlorides and sodium sulphate, sodium chloride being especially preferred.

- In addition to the essential components mentioned hereinabove, the fragrance-providing compositions according to the invention may additionally contain other known ingredients added in art-recognised quantities to perform their known functions. One such particularly useful ingredient is clay, added to give a softening effect. Particularly preferred clays are bentonites. Examples of other art-recognised ingredients that can be included are antibacterial agents, fluorescing and whitening agents and malodour counteracting agents.

25

The fragrance-providing compositions according to the invention are prepared by thoroughly mixing the dry ingredients (particulate carrier, salt, other ingredients) and then adding the liquid fragrance composition and stirring until a free-flowing dry powder is achieved. Given that the final product is a free-flowing powder, a wide variety of proportions of ingredients may be used, depending upon the individual natures of the ingredients, and the skilled person can easily determine appropriate amounts by simple experimentation in every case. As a general guideline, the ratio of water-soluble salt to perfume is typically in the ratio of from

10:1 to 20:1, and the ratio of adsorbent material to water-soluble salt is typically in the ratio of from 1:10 to 1:20.

The fragrance-providing compositions of the invention are easily made and storage stable.  
5 The process for their manufacture is simple and does not suffer from the high rate of fragrance loss that plagues other encapsulation techniques. In a wash or rinse liquor, the water-soluble salt dissolves and the released fragrance partitions preferably on to the substrate being washed. The invention therefore provides a method of applying a fragrance as hereinabove described, to a substrate during washing or rinsing, comprising the adding to  
10 the wash or rinse water of a fragrance-providing composition

The invention is further described with reference to the following non-limiting examples.

#### EXAMPLE 1

15 Three admixtures A, B, C of the compositions shown in the table below are prepared by blending fumed silica, CMC and sodium chloride and then adding perfume, and mixing until a free-flowing powder is achieved. 0.5g of each of three is added to one litre of water to give a liquor. A towel is soaked in the liquor for ten minutes and squeezed and dried in open air.

	A	B	C
Sunshine (perfume)	10	10	10
AEROSIL® 200	2		2
AEROSIL® R972		2	
Sodium Chloride			88
BLANOSE® Refined CMC Type 7H	88	88	
Total	100	100	100

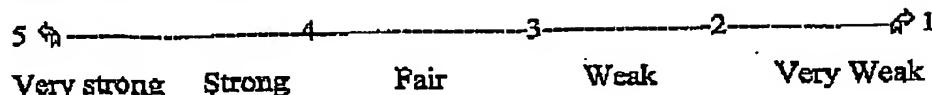
20

AEROSIL is a fumed silica (ex Degussa).

Olfactive evaluations are carried at regular intervals of time by an expert panel of evaluators.

5

## Performance Rating:



## Olfactive Evaluation scores

	Day 1	Day 3	Day 5	Day 7	Day 10
A	5	4.6	4	3.1	1.5
B	4.8	4.6	4.1	3	1.4
C	5	4.6	4	3	1.4

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EXAMPLE 2

Example 1 is repeated with compositions E, F, G, H, as shown in the table below:

	E	F	G	H
WaterFall (perfume)	10	10	10	10
AEROSIL® 200	5	5	5	5
LAUNDROSIL® DGA	5	5	5	5
Sodium Chloride	80			
BLANOSE® Refined CMC Type 7H		80		
Zeolite			80	
Sodium Tripolyphosphate				80
Total	100	100	100	100

10 LAUNDROSIL is a detergent-grade bentonite (ex Süd-Chemie AG)

The zeolite used is Type 4A available from Degussa under the trade mark "Wessalith".

The results are as follows:

Olfactive Evaluation scores

	Day 1	Day 2	Day 5	Day 7	Day 10
E	5	4.2	2.5	2.2	1.1
F	5	4.3	2.4	1.5	1.0
G	5	4.3	2.5	.2.	1.1
H	3.5	3.3	1.9	1.3	1.0

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## CLAIMS:

1. A method of preparation of a free-flowing solid fragrance-providing composition, comprising the addition of a fragrance to a particulate carrier material in the presence of a water-soluble salt of an alkali or alkaline earth metal.
- 5 2. A free-flowing solid fragrance-providing composition, comprising a particulate carrier on which is deposited a fragrance and a water-soluble salt of an alkali or alkaline earth metal.
- 10 3. A method of providing a fragrance to a substrate during washing or rinsing, comprising the adding to the wash or rinse water of a free-flowing solid fragrance-providing composition according to claim 2.

**ABSTRACT**

A substrate such as a fabric may be provided with a fragrance during washing or rinsing process by the addition to the wash water of a free-flowing solid fragrance-providing composition that comprises a fragrance deposited on a particulate carrier along with a water soluble salt of an alkali metal or an alkaline earth metal.

PCT Application  
**PCT/CH2004/000103**



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